

REMARKS

This Amendment is submitted in response to an Office Action mailed on March 8, 2002 (the "Office Action"). The period for filing a response to the Office Action has been extended by a Petition filed concurrently herewith pursuant to 37 C.F.R. § 1.136(a). Thus, a response to the Office Action is due no later than July 8, 2002, and this Amendment is being timely filed. Applicants respectfully request entry of this Amendment prior to continued examination of the above-identified patent application.

In the Office Action, the Examiner made a final rejection of claims 1 and 2. In response to the Office Action, applicants have filed a Request for Continued Examination (RCE) of the present application. Concurrently with the filing of the RCE, applicants respectfully submit this Amendment and request entry thereof prior to continued examination of the present application. By this Amendment, applicants have amended claim 1, and added claims 3- 10. Thus, upon entry of this Amendment, claims 1- 10 are pending in the present application.

The Examiner has rejected claim 1 under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 5,675,367 to Scheffelin et al. (the '367 patent). Applicants respectfully traverse that rejection.

The '367 patent discloses a print cartridge 16 having a collapsible ink bag 51 that may contain one of black, cyan, magenta or yellow ink. See, e.g., FIG. 6. Each print cartridge 16 has a valve 24 which may be selectively opened and closed so as to permit ink to flow from the cartridge 16 and through the valve 24. See, e.g., FIG. 3. Each cartridge 16 also contains a fill hole 46 for initially filling the ink bag. Fill hole 46 is later sealed with a steel ball; the sealing

intended to be permanent. See, e.g., column 4, lines 62-64. We also direct the Examiner's attention to FIG. 9, which depicts a cross-sectional side view of the ink cartridge 16, showing the valve 24 and fill hole 46. The ink bag may be recharged with ink using an ink refill system 210, as depicted in FIGS. 39-41. The ink refill system 210 utilizes a needle 212 and septum 228 for refilling the ink bag 51 in the ink cartridge 16.

The '367 patent thus discloses an ink cartridge having an ink bag (51) with a first opening (fill hole 46) through which the ink bag may be filled and which is later permanently sealed, and a second opening (valve 24 or septum 228) through which the ink bag may be refilled. The first opening is used only for initially filling the ink bag, and the septum is used only for refilling the ink bag. The '367 patent provides no teaching or suggestion of providing a second opening comprising an ink supply port selectively engageable with an ink jet recorder, as recited by applicants' amended claim 1. Nor is that feature obvious from an proposed hypothetical combination of the '367 patent and any other prior art of record, or in combination with the knowledge of a person of ordinary skill in the art. Thus, applicants' respectfully submit that the invention recited by amended claim 1 is neither anticipated nor rendered obvious by any prior art of record. Consequently, applicants further respectfully submit that the Examiner's rejection of claim 1 under 35 U.S.C. §102(e) as anticipated by the '367 patent is no longer tenable and respectfully request withdrawal of that rejection.

The Examiner has rejected claim 2 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,900,895 to Merrill (the '895 patent). Applicants respectfully traverse that rejection.

In the Office Action, the Examiner points to column 13, line 46 through column 14, line 4

to support the position that the '895 patent discloses "discharging ink from the ink bag and charging the ink bag both through the port." However, the Examiner's reference is to claim 1 of the '895 patent, which is directed to a refillable ink supply having a dual purpose outlet through which ink may flow into and out of a reservoir of the ink supply. Claim 1 of the '895 patent recites a first mode, in which ink flows from the reservoir and through a pressurizable chamber to the print head (i.e., discharging the reservoir during printing). Claim 1 of the '895 patent also recites a second mode, in which ink flows from an ink supply through the pressurizable chamber to refill the reservoir (i.e., charging the reservoir during refilling). Thus, the '895 patent teaches discharging ink from the ink supply through the outlet only when the ink supply is in a docking bay and only during printing operations of an ink-jet printer. Only when used in the second mode is the ink supply removed from the docking bay. See, e.g., column 3, lines 54-56 and column 12, lines 36-37. Thus, the outlet referred to in claim 1 is not used in both modes during refilling of the ink supply. Rather, the outlet is used in the first mode during printing and in the second mode during refilling. Moreover, there is no teaching or suggestion in '895 patent of discharging the reservoir prior to refilling, as recited by claim 2. For those reasons, applicants respectfully submit that the '895 patent does not teach every limitation recited by claim 2, as is necessary of a valid 35 U.S.C. §102 reference. In fact, applicants respectfully submit that the '895 patent fails to teach or suggest the method recited by claim 2; specifically, the '895 patent fails to teach or suggest a method of refilling an ink bag comprising, inter alia, the steps of discharging ink from the ink bag only through a port and charging the ink bag only through that port.

Applicants further respectfully submit that the invention recited by claim 2 is neither taught nor suggested by the '895 patent, whether considered alone or in any hypothetical combination with any prior art of record in the present application or with the knowledge of a person of ordinary skill in the art. In view of the amendment to claim 2, and the remarks provided above, applicants respectfully submit that the Examiner's rejection of claim 2 under 35 U.S.C. §102(e) as anticipated by the '895 patent is no longer tenable, and respectfully request withdrawal of that rejection.

Applicants have reviewed and considered the other prior art references of record and consider those references to be no more relevant than those relied upon by the Examiner in rejecting the claims of the present application.

Pages 11-13 of this Amendment, titled CHANGES MADE TO THE CLAIMS, indicate the changes made to the claims in accordance with this Amendment.

Applicants respectfully submit that the claims of the present application are patentably distinguishable over the cited prior art, whether considered alone or in any combination. Applicants further respectfully submit that all of the pending claims are now in condition for allowance, and such action is earnestly solicited. Reconsideration and allowance of the present application are hereby respectfully requested.

Application Serial No.: 09/818,765
June 20, 2002

Any additional fees or charges required at this time and in connection with the present application may be charged to Patent and Trademark Office Deposit Account No. 19-4709.

Respectfully submitted, ✓

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1. method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

removing the ink bag from the ink jet recorder;

positioning the ink bag;

inserting an ink needle into a second opening in the ink bag that is different than the first opening through which the ink bag is initially filled with ink, the second opening comprising an ink supply port selectively engageable with an ink jet recorder; and

charging the ink bag only through the second opening with a specified quantity of ink.

3. A method of refilling an ink bag for use in an ink jet recorder, the ink bag having a flexible bag portion having an interior and being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

removing the ink bag from the ink jet recorder;

positioning the ink bag;

inserting an ink needle into a second opening in the ink bag that is different than the first opening through which the ink bag is initially filled with ink, the second opening comprising an ink supply port selectively engageable with an ink jet recorder,

wherein the ink needle is inserted into the interior of the flexible bag portion of the ink bag; and

charging the ink bag only through the second opening with a specified quantity of ink.

4. A method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

removing the ink bag from the ink jet recorder;

positioning the ink bag;

inserting an ink needle into a second opening in the ink bag that is different than the first opening and that is located linearly opposite of the first opening and through which the ink bag is initially filled with ink, the second opening comprising an ink supply port selectively engageable with an ink jet recorder, the ink needle being inserted into the second opening along the linear line between the first and second openings; and

charging the ink bag only through the second opening with a specified quantity of ink.

5. A method of manufacturing an ink cartridge, comprising the steps of:

(a) providing an ink bag including an outlet side and an inlet side, said outlet side having a port, said inlet side being open;

(b) hanging said ink bag with said port facing downward;

(c) charging a predetermined amount of ink to an ink level into said ink bag via said inlet side; and

(d) sealing said inlet side at a position below the ink level by heat welding.

6. The method according to claim 5, wherein said steps of charging and sealing are conducted under a depressurized condition.

7. The method according to claim 5, wherein said step of sealing includes:

sealing said inlet side at a first portion by heat welding; and

sealing said inlet side at a second position below said first position by heat welding.

8. The method according to claim 5, further comprising the step of:

cutting said inlet side subsequently to said step (d).

9. The method according to claim 5, wherein said step (d) includes sealing said inlet side at a position slightly lower than an ink level.

10. The method according to claim 5, further comprising the step of:

contacting a plate with a surface of said ink bag between said outlet and inlet sides prior to said step (d).